EPA Remaining Items, as of 02/23/2015

Sources: EPA Remaining Issues Table 12/17/2014 (Co-leads); Summary of remaining EPA issues in the NorthMet EIS review 12/16/14-red lined (Co-leads)

Cooperating Agency	Issue	Batch	Status	Updated Status	Information in support of issue resolution	Notes
EPA	1. Acid generation may occur from pits, pit walls, waste rock and lean ore piles, but will be managed on-site through collection, treatment, disposal, and use of adaptive management as needed.	4	Conceptually Resolved		• Response to EPA Comment #2: Water Quality - waste rock and acid rock drainage • PFEIS Section 5.2.2.3.1 NorthMet Project Proposed Action Water Budget Overview • PFEIS Section 5.2.2.3.2 Partridge River Watershed • PFEIS Section 5.2.2.3.5 Proposed and Recommended Mitigation Measures	
EPA	2. During active mining and post-closure, water quality standard exceedances will be prevented through on-site treatment or other measures, before discharge to waters of the U.S. --SDS approach to monitoring	3,4	Conceptually Resolved		• Response to EPA Comment #7 : NPDES Permitting • PFEIS Section 5.2.2.3.5 Proposed and Recommended Mitigation Measures	
EPA	3. A groundwater capture and containment system will be installed at the tailings basin.	1,4	Conceptually Resolved	2/5/2015 Resolved	• Project Description Section 4.3.8.3 (pgs 46, 60, 63, 64-65, 73-75) • PFEIS Section 3.2.2.3.10 Engineered Water Controls (pgs 115-117, 123, 131-132, 137-138) • PFEIS Section 5.2.2.3.3 Tailings Basin Groundwater Containment System • Response to EPA comment #32: TB groundwater capture • FTB Containment System Update	
EPA	4. An existing coal ash landfill located in the tailings basin will be removed, and resulting materials will be disposed of at the hydrometallurgical residue facility in accordance with applicable laws.	1	Conceptually Resolved	2/5/2015 Resolved	• Project Description Section 4.3.6 (pgs 61-62) • PFEIS Section 3.2.2.3.5 Project Construction (pg 102) • Coal Ash Landfill Relocation Description	
EPA	5. Ground water will be collected from faults and fractures in the upper bedrock using negative pressure from the tailings basin capture and containment system. Adaptive management techniques will be used at the mine site as needed to stop groundwater flow along faults and fractures.	1,4	Conceptually Resolved	2/5/2015 Resolved	• Response to EPA Issue 5: faults/fractures • NorthMet Pit: Conceptual Plan for Bedrock Groundwater Flow Mitigation (Barr and Foth August, 2014) • NorthMet Project FEIS Bedrock Hydrology at the NorthMet Mine and Plant Sites Rationale for Model Change Recommendations (Co-Leads, November 17, 2014) • PFEIS Section 5.2.2.3.3 Embarass River Watershed PFEIS Section	
EPA	6. a) The water model is not designed to estimate the duration of active water treatment. The EIS will clarify this, b) the role of financial assurance and adaptive management in ensuring that water quality standards are met, and DNR's intent to require the project proposer to pilot, and potentially implement, passive treatment as a permit condition if the project proceeds.	4	Conceptually Resolved		• PFEIS Section 5.2.2, Summary • Response to EPA Comment #14: Duration of Treatment • NorthMet Project FEIS Duration of Water Treatment at Mine Site and Plant Site Rationale for Thematic Response (Co-leads, November 17, 2014)	
EPA	7. The EIS will clearly and concisely summarize the USFS alternatives analysis for the proposed land exchange.	2	Conceptually Resolved	2/19/2015 Conceptually resolved, aside from PFEIS sections that will be reviewed in Batch 4.	• PFEIS Section 3.3.3 USFS LE Alternatives • Response to EPA Comment #31: USFS Land Exchange • Table 7.3.5-1 - LE Matrix Follow-up materials for Batch 4: • PFEIS section 5.3.4 • PFEIS section 5.3.5 • PFEIS section 5.3.6 • PFEIS section 7.2.4 • PFEIS section 5.3.1	
EPA	8. Pending NPDES-related questions will be deferred until permitting, when they will be addressed by USEPA and MPCA.	N/A	Resolved		N/A	

EPA	9. The sensitivity of water quality impacts to groundwater base flow at the mine site is being investigated. • Action: Provide sensitivity analysis to EPA for review.	2,3	Unresolved	2/19/2015 Pending	• Response to EPA Comment #11: Water Modeling - Partridge River flow • Sensitivity Analysis Rationale [NorthMet Project FEIS Partridge River Groundwater Baseflow & Sensitivity Analysis Background and Rationale for Agency Recommendations (Co-leads, November 17, 2014)] • Partridge River Baseflow Sensitivity Analysis (Appendices: J, K, L, M; Section 7.3) • Partridge River Baseflow Sensitivity Analysis - Work Plan	
EPA	10. Modeling and mitigation measures for mercury releases in the Lake Superior watershed can use a mass-balance approach, if this is combined with adaptive management to assure future mitigation of releases as needed. • Action: Co-lead agencies agree to use adaptive management.	1,4	Unresolved	2/12/2015 Resolved, aside from the mitigation issue, which will be reviewed as part of a PFEIS section in Batch 4.	• Adaptive Water Management Plan and Appendices • Response to EPA Comment #15: Mercury • PFEIS Section 5.2.2.3.5 Proposed and Recommended Mitigation Measures Follow-up materials: • Mine Site Hg Balance_v12 to v13_comparison (PDF pages 453 to 467) • Plant Site Hg Balance_v9 to v10_comparison (PDF pages 404 to 418) • AWMP v6_Lg Figs 1_2_3 • Metals Removal by Reverse Osmosis_v1_DEC2012 (PDF pages 8-9)	
EPA	11. Additional model inputs will be used to calculate water quality in Colby Lake. • Action: Provide a list of additional input variables to EPA for review.	3	Unresolved		• Response to EPA Comment #8: Colby Lake Modeling • Colby Lake Modeling Inputs (workplan)	
EPA	12. Co-lead agencies are continuing to assess the design of the hydrometallurgical residue facility. • Action: Provide updated data packages and management plans to EPA for review.	2	Unresolved	2/19/2015 Conceptually resolved, aside from PFEIS sections that will be reviewed in Batch 4.	• Geotechnical Data Package Volume 2: HRF (Sections 5.0-6.0) • Hydrometallurgical Residue Management Plan (Sections 2.0-5.0, Attach J&K) • Response to EPA Comments #3 : HRF Design • Response to EPA Comment #37: HRF Liquefaction Follow-up materials: • PFEIS section 5.2.14.2.3 • PFEIS section 5.2.2.5.4 • PFEIS section 4.2.14.3 • PFEIS section 3.2.2.3.7 (EPA already received) • PFEIS section 3.2.2.3.10	
EPA	13. The newly proposed (post-SDEIS) east tailings basin containment system will directly impact a small amount of wetlands. • Action: Co-lead agencies will discuss how these wetland impacts will be considered for the PFEIS.	3	Unresolved		• Response to EPA Issue 13: wetland impacts due to new east side TB containment system • PFEIS Section 5.2.3.2.3: Plant Site Direct Effects	
EPA	14. The monitoring and mitigation plan for indirect wetland impacts has not been finalized. • Action: Co-leads will summarize available information on the monitoring and mitigation plan for indirect wetland impacts in draft EIS sections and provide to EPA for review and comment. In addition, EPA will continue to work with USACE to make sure monitoring and mitigation for indirect impacts meets permitting requirements.	3	Unresolved		• Wetland Management Plan v7 (see sections 4.2 and 4.3) • Response to EPA Comment #17: Wetlands - indirect impacts and mitigation • PFEIS Section 5.2.3.3 Wetland Mitigation and Monitoring	
EPA	15. The proposed wetland mitigation sites may not provide sufficient credits for the proposed direct and indirect wetland impacts. • Action: PolyMet is currently looking into prospective wetland mitigation options. Once this review is complete, EPA and USACE will determine if the proposed sites and acreage are sufficient to cover direct and indirect wetland impacts.	3	Unresolved		• Response to EPA Comment #21: Update on wetland mitigation credits • USACE 2015a Letter from USACE to Jennifer Saran, PolyMet Mining • PFEIS Section 5.2.3.3 Wetland Mitigation and Monitoring	
EPA	16. Augmentation to adjacent tributary streams and wetlands is proposed to come from water that has been treated at the water treatment plant.	1	Unresolved	2/12/2015 Resolved	• Project Description Section 4.3.8.4 (pgs 63, 65, 75) • PFEIS Chapter 3.2 (pgs 123, 132) • Stream Augmentation Description	
EPA	17. A change in ore processing is proposed to use a sag mill instead of a rod mill and ball mill.	1	Unresolved	2/5/2015 Resolved	• Project Description Section 4.3.2.2 (pgs 48-49) • PFEIS Chapter 3.2 (pgs 89, 98) • SAG Mill Description	

EPA	18. A deep soil cement mixing technology is proposed within the existing tailings basin to increase dam stability at the slime layer.	1	Unresolved	2/5/2015 Resolved	• Project Description Section 4.3.6 (pg 60) • PFEIS Chapter 3.2 (pg 89) • Cement Deep Soil Mixing Description	
EPA	19. A capture and containment system is being proposed to the East of the tailings basin. (see EPA issue 3)	N/A	N/A		(see EPA issue 3)	
EPA	20. Comment #13 – pH extrapolation	3	Unresolved		• Response to EPA Comment #13: pH extrapolation	
EPA	21. Comment #19 criteria for wetland fragmentation loss	3	Unresolved		• Response to EPA Comment #19: criteria for wetland fragmentation loss	
EPA	22. Comment #20 20% threshold for fragmentation	3	Unresolved		• Response to EPA Comment #20: 20% threshold for fragmentation	
EPA	23. Comment #22 on-site wetland reclamation not used for mitigation credits	3	Unresolved		• Response to EPA Comment #22: on-site wetland reclamation not used for mitigation credits • PFEIS Section 5.2.3.3 Wetland Mitigation and Monitoring	
EPA	24. Comment #23 Inconsistency between Table 6.2-8 and Table 6.2-11	3	Unresolved		• Response to EPA Comment #23: Inconsistency between Table 6.2-8 and Table 6.2-11 • Table 6.2-8 and PFEIS Section 6.2.3.4.1 Wetlands Approach • Table 6.2-11 and a portion of PFEIS Section 6.2.3.4.4 Cumulative Effects Assessment	
EPA	25. Comment #25 Cumulative effects to water resources – changes to Partridge River Flow	4	Unresolved		• Response to EPA Comment #25: Cumulative effects to water resources – changes to Partridge River Flow • PFEIS Section 6.2.3.3.3 Cumulative Effects on Hydrology	

FEIS Supporting Information, Responses to EPA Comments and FEIS Text Related to EPA Topics

Batch 1 EPA	Batch 2 EPA	Batch 3 EPA	Batch 4 EPA	Batch 4 Additional Information Requested
Project Description, several sections [3, 4, 16, 17, 18]	Sensitivity Analysis Rationale [NorthMet Project FEIS Partridge River Groundwater Baseflow & Sensitivity Analysis Background and Rationale for Agency Recommendations (Co-leads, November 17, 2014)] [9]	Wetland Management Plan v7 (see sections 4.2 and 4.3) [14]	Response to EPA Comment #2: Water Quality - waste rock and acid rock drainage [1]	**PFEIS sections for Issue #7** • PFEIS section 5.3.4 • PFEIS section 5.3.5 • PFEIS section 5.3.6 • PFEIS section 7.2.4 • PFEIS section 5.3.1
PFEIS Chapter 3.2, several sections [3, 4, 16, 17, 18]	Partridge River Baseflow Sensitivity Analysis [9]	Response to EPA Issue 13: wetland impacts due to new east side TB containment system [13]	PFEIS Section 5.2.2.3.5 Proposed and Recommended Mitigation Measures [1, 2, 10]	**PFEIS sections for Issue #12** • PFEIS section 5.2.14.2.3 • PFEIS section 5.2.2.5.4 • PFEIS section 4.2.14.3 • PFEIS section 3.2.2.3.7 (EPA already received in Batch 1) • PFEIS section 3.2.2.3.10 (EPA already received in Batch 1)
FTB Containment System Update [3]	Partridge River Baseflow Sensitivity Analysis - Work Plan [9]	Response to EPA Comment #17: Wetlands - indirect impacts and mitigation [14]	PFEIS Section 5.2.2.3.1 NorthMet Project Proposed Action Water Budget Overview [1]	
Coal Ash Landfill Relocation Description [4]	Geotechnical Data Package Volume 2: HRF [12]	Response to EPA Comment #19: criteria for wetland fragmentation loss [21]	PFEIS Section 5.2.2.3.2 Partridge River Watershed [1]	
Stream Augmentation Description [16]	Hydrometallurgical Residue Management Plan [12]	Response to EPA Comment #20: 20% threshold for fragmentation [22]	PFEIS Section 5.2.2, Summary [6]	
SAG Mill Description [17]	Response to EPA Comment #3: HRF Design [12]	Response to EPA Comment #21: Update on wetland mitigation credits [15]	Response to EPA Comment #14: Duration of Treatment [6]	
Cement Deep Soil Mixing Description [18]	Response to EPA Comment #37: HRF Liquefaction [12]	USACE 2015a Letter from USACE to Jennifer Saran, PolyMet Mining [15]	NorthMet Project FEIS Duration of Water Treatment at Mine Site and Plant Site Rationale for Thematic Response (Co-leads, November 17, 2014) [6]	
Adaptive Water Management Plan [10] and Appendices	PFEIS Section 3.3.3 USFS LE Alternatives [7]	Response to EPA Comment #22: on-site wetland reclamation not used for mitigation credits [23]	Response to EPA Comment #25: Cumulative effects to water resources – changes to Partridge River Flow [25]	
Response to EPA Comment #15: Mercury [10]	Response to EPA Comment #31: USFS Land Exchange [7]	PFEIS Section 5.2.3.3 Wetland Mitigation and Monitoring [14, 15, 23]	PFEIS Section 6.2.3.3.3 Cumulative Effects on Hydrology [25]	
NorthMet Pit: Conceptual Plan for Bedrock Groundwater Flow Mitigation (Barr and Foth August, 2014) [5]	Table 7.3.5-1 - LE Matrix [7]	PFEIS Section 5.2.3.2.3: Plant Site Direct Effects [13]	PFEIS Section 5.2.2.3.3 Tailings Basin Groundwater Containment System [3]	
NorthMet Project FEIS Bedrock Hydrology at the NorthMet Mine and Plant Sites Rationale for Model Change Recommendations (Co-Leads, November 17, 2014) [5]		Response to EPA Comment #23: Inconsistency between Table 6.2-8 and Table 6.2-11 [24]	Response to EPA comment #32: TB groundwater capture [3]	
Response to EPA Issue 5: faults/fractures [5]		Table 6.2-8 and PFEIS Section 6.2.3.4.1 Wetlands Approach [24]	PFEIS Section 5.2.2.3.3 Embarass River Watershed [5]	
		Table 6.2-11 and a portion of PFEIS Section 6.2.3.4.4 Cumulative Effects Assessment [24]	Response to EPA Comment #11: Water Modeling - Partridge River flow [9]	
		Response to EPA Comment #13: pH extrapolation [20]		
		Response to EPA Comment #7 : NPDES Permitting [2]		
		Response to EPA Comment #8: Colby Lake Modeling [11]		
		Colby Lake Modeling Inputs (workplan) [11]		
Batch 1 Delivery Date: 01/26/15 Presentation Meeting Date: 01/27/15 Resolution Meeting Date: 02/05/15	Batch 2 Delivery Date: 02/09/15 Presentation Meeting Date: 02/10/15 Resolution Meeting Date: 02/19/15	Batch 3 Delivery Date: 02/23/15 Presentation Meeting Date: 02/24/15 Placeholder: 3/10/15 Resolution Meeting Date: 03/05/15 Placeholder: 3/19/15	Batch 4 Delivery Date: 03/30/15 Presentation Meeting Date: 03/31/15 Resolution Meeting Date: 04/09/15	
Issues for Resolution in Batch 1 Engagement Issue Nbr 3 (partially) Issue Nbr 4 Issue Nbr 5 (partially) Issue Nbr 10 (partially) Issue Nbr 16 Issue Nbr 17 Issue Nbr 18	**Issues for Resolution in Batch 2 Engagement** Issue Nbr 7 Issue Nbr 9 (partially) Issue Nbr 12	**Issues for Resolution in Batch 3 Engagement** Issue Nbr 2 (partially) Issue Nbr 9 Issue Nbr 11 Issue Nbr 13 Issue Nbr 14 Issue Nbr 15 Issue Nbr 20 Issue Nbr 21 Issue Nbr 22 Issue Nbr 23 Issue Nbr 24	**Issues for Resolution in Batch 4 Engagement** Issue Nbr 1 Issue Nbr 2 Issue Nbr 3 Issue Nbr 5 Issue Nbr 6 Issue Nbr 10 Issue Nbr 25	

Notes: Issues Nbr 8 and Nbr 19 are N/A
Issue numbers are in brackets in deliverables portion of table [1]

Unresolved	1
Conceptually Resolved	2
Partially Resolved	3
Resolved	4
Impasse	1,2
N/A	1,3
	1,4
	3,4
	2,3
	N/A